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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
	)	CC Docket No. 97-160
	)	DA 98-848
Forward-Looking Mechanism for High Cost Support for Non-Rural LECs	)	
	)	

COMMENTS OF GTE

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SUMMARY

The Common Carrier Bureau has requested additional comment on several issues concerning the use of models to compute universal service costs. As GTE has explained in its prior pleadings, an auction mechanism is the best method for allocating universal service funding. Competitive bidding will allow all carriers the opportunity to provide universal service using any technology, while also ensuring that the carrier selected will provide the most cost-effective service. Until such a mechanism can be put in place, the Commission should use a BCPM-based model (whether its own or one submitted by the states) populated with carrier- and state-specific inputs. The BCPM Model reflects critical engineering considerations far more accurately than the HAI Model.

Despite its opposition to the use of cost proxy models, GTE has attempted to provide the Commission with comment on the input values that should be used in such a model. However, it is almost impossible to calculate general values without knowing the relevant model platform. Each model defines variables differently and includes and excludes different costs. Therefore, although GTE provides some comments in response to the Bureau's request, GTE urges the Commission to provide for additional input value comment after a model platform is selected.

Geocoding and GPS data. Although geocoding can accurately identify customer location in many urban areas, geocoding has a very low accuracy rate for the less-populated areas most needing universal service support. GPS data can be extremely accurate, but would be prohibitively expensive to obtain. Therefore, GTE recommends that the Commission use the BCPM customer location algorithm, which is more

accurate than that used by the HAI Model and is based on publicly available information.

Definition of households. In recognition of ILECs' state responsibilities as carriers of last resort, GTE suggests that the Commission use all housing units, regardless of whether they are currently occupied, as the basis for computing universal service costs.

Loop length. Any cost proxy model should incorporate a 12,000 foot copper-loop length. This is consistent with current Carrier Serving Area design standards and ensures that rural subscribers can have access to the same advanced services as those in urban areas.

Depreciation. The Commission's current depreciation ranges are not reflective of the economic lives or salvage values used by ILECs or other telecommunications carriers. The Commission should allow ILECs to use economic lives and salvage values to compute depreciation so that they are not at a competitive disadvantage as competition continues to increase in the local exchange market.

Costs of outside plant. Carrier-specific inputs by state should be used to compute outside plant costs. Although the default values of the HAI Model and BCPM both fail to represent the actual costs of carriers, those included in BCPM are more inclusive of the relevant costs, better defined, and more thoroughly supported than those in the HAI Model.

Benchmark. The Commission should not adopt any benchmark until the model platform and inputs have been selected. In addition, when the Commission does adopt a benchmark, GTE recommends that a cost, rather than a revenue, benchmark be used so that sufficient funds are available to cover the costs of providing universal service above the revenues collected from customers for those services.

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COMMENTS OF GTE

GTE Service Corporation and its affiliated domestic telephone operating companies (collectively "GTE")[1] respectfully submit their Comments on the Common Carrier Bureau's Public Notice in the above-captioned proceedings.[2] As GTE has emphasized throughout this proceeding, an auction mechanism is the most efficient method by which to allocate universal service funding. Until such a mechanism can be implemented, the Commission should adopt a BCPM-based model populated with carrier-specific inputs by state. BCPM models a functional[3] network that more closely

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[1] GTE Alaska, Incorporated, GTE Arkansas Incorporated, GTE California Incorporated, GTE Florida Incorporated, GTE Hawaiian Telephone Company Incorporated, The Micronesian Telecommunications Corporation, GTE Midwest Incorporated, GTE North Incorporated, GTE Northwest Incorporated, GTE South Incorporated, GTE Southwest Incorporated, Contel of Minnesota, Inc., GTE West Coast Incorporated, and Contel of the South, Inc.

[2] Common Carrier Bureau Requests Further Comment on Selected Issues Regarding the Forward-Looking Economic Cost Mechanism for Universal Service Support, CC Docket Nos. 96-45, 97-160 (Public Notice) (rel. May 4, 1998) ("Public Notice").

[3] Letter to Magalie R. Salas from W. Scott Randolph, CC Docket Nos. 96-45, 97-160 (filed May 7, 1998).

resembles the networks built by ILECs. In addition, BCPM allows for significant carrier-specific data so that the different conditions and factors facing each carrier can be taken into account.

Although GTE has attempted to provide the Commission with input values for a proxy model, it is difficult, if not impossible, to determine appropriate input values without knowing what model platform will be used. Input values are calculated differently depending on the model platform structure. Therefore, GTE urges the Commission, if it adopts a proxy model, to first adopt the model platform and then provide an additional opportunity for parties to submit input value data based on that model platform.

I. GEOCODED AND GPS DATA ARE NOT YET FEASIBLE TO DETERMINE THE COSTS OF PROVIDING UNIVERSAL SERVICE.

The Bureau asks a number of questions regarding the availability and usefulness of geocoding and global positioning satellite ("GPS") data for determining customer location.[4] As explained below, GTE believes that geocoded data are not available without considerable expense and effort. Further, use of such data in a cost model would significantly increase the computing power and processing time necessary for the model to generate results. Also, the ability of the proxy model to use geocoded data without extensive modification of the algorithms within the model must be considered. Most importantly, as GTE has explained in prior comments, geocoded data do not

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[4] Public Notice at 3-4.

produce accurate customer locations, particularly in the low-density areas that require high-cost support.

GPS device data, though more accurate, are not feasible for use in a cost model because there are limited data currently available and the collection costs are considerable. For GPS data to be useful, the location of each housing unit in the United States would have to be entered into a GPS device. Thus, use of GPS devices is not an economically feasible means of collecting customer location information at this time.

A. The Commission should not use geocoded data as the basis for determining customer location.

In the Public Notice, the Bureau requested comment on alternative sources of geocoded data.[5] Unfortunately, an accurate database with longitude and latitude coordinates for United States households does not exist. The Metromail database used by the HAI Model is a marketing list compiled from various sources and run through geocoding software for purposes of identifying customer location. Metromail does not include the physical address for many rural customers with Rural Free Delivery ("RFD") and post office box addresses, and, therefore, these customers can not be geocoded to an exact address.

The reliability and the accuracy of the Metromail database are unknown. For example, no independent source has verified whether each record has a match-code indicator field (which shows the accuracy of the latitude/longitude assignment) or how

[5] Public Notice at 3.

many records with different street addresses have identical latitudes and longitudes. Similarly, it is unclear what vintage of street data is used, what the match rate is for cities based on all records for that city, and what areas have low match rates.

Geocoding software is only as good as the underlying street base information used by the program. A major flaw in geocoding software is the limited funding for street segment enhancement for rural areas. That is, geocoding software vendors typically update street segment information in areas where companies purchasing their software require market information, such as major metropolitan regions. Rural regions do not receive the attention and resources necessary for these updates. It is these areas, however, where high-cost support is critical. In addition, a vast majority of rural records cannot be geocoded at all, as demonstrated by the empirical data filed by parties in the recent geocoding data request.[6]

There are also flaws in the geocoding software that produce errors regardless of the quality of the underlying information, some of which are discussed below:

- Street segments often lack uniform range numbers for the left and right side of the segment. Many segments of the street have no valid ranges at all. This causes a clumping of addresses on one street segment, while leaving the remaining street segments void of any latitude/longitude assignments, producing significant errors.
- Since exact city boundary lines do not exist for all areas, geocoding software uses enclosing zip codes. This limits automated geocoding in certain post office delivery areas. As a result, there are entire cities that will not geocode since the software is looking for the city and zip code of the enclosing polygon. For example, the Big Bear City region in California, which includes the cities of Big Bear Lake (92315), Sugarloaf (92386), and Fawnskin (92333), cannot be geocoded unless the city name and zip code are modified to that of Big Bear City – 92314. Unfortunately,

[6] Comments of Southwestern Bell Telephone Company on Geocoding Issues, CC Docket No. 97-160 at 5 (filed Apr. 27, 1998).

many of the street segments have no valid ranges after the city and zip code are modified. That is, these customers cannot be assigned to an exact location for geocoding purposes. Although manual placement along the street is possible in many cases based on adjacent street patterns, this process will never result in an exact latitude/longitude assignment for the customer and is time-intensive.

- Many major highways do not have segment information. Since highways often split a census block ("CB") or census block group ("CBG") boundary, customers residing along these boundaries cannot be geocoded to a latitude/longitude.
- Rural route and post office box addresses, which are generally found in rural areas, can never be geocoded to an exact latitude/longitude. GTE has found that many of the streets contained in GTE's data files cannot be found in geocoding software. Street name changes, vanity address assignments, and incorrect abbreviations also can prevent an address from being properly geocoded.

Geocoding software is not prohibitively expensive (generally less than $20,000). However, the process of ensuring correct file information to correct for the problems listed above makes geocoding both time-consuming and resource-intensive.

While geocoding may ultimately be the appropriate method for determining customer locations, the HAI Model methodology does not truly use the geocode data to any great extent and demonstrates the difficulty associated with using geocode data in a model. As explained in Exhibit 1, although the HAI Model claims to use geocoded data, such data actually have little effect on the customer location determinations made by the Model. In addition to GTE's review, Sprint has also done considerable analysis of the HAI Model, some of which GTE included in a recent filing before the Commission.[7] As Sprint explains:

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[7] Letter to Magalie R. Salas from W. Scott Randolph, CC Docket Nos. 96-45, 97-160, "The Hatfield (HAI) Model 5.0a and the Underbuilding of Distribution Plant" (filed May 7, 1998).

> Sprint has conducted an analysis using only data taken directly from the HAI Model itself. This analysis provides a sense of the magnitude and frequency with which HAI under builds the local telephone network, particularly with regard to rural areas (which are of highest concern for universal service issues).[8]

Further, the analysis presented by Sprint indicates that the HAI Model has customer location algorithms that do not reasonably locate customers and that it does not provide for sufficient distribution cable to provide service to all customers. Until geocoded data are open, reliable, and reasonably priced and the selected model platform can accurately incorporate such data, GTE believes that the BCPM method for locating customers is more reasonable.

As GTE explained in its recent ex parte filing before the Commission, BCPM has a customer location algorithm that uses housing and business line data at the CB level combined with information on road networks. The model then clusters customers in urban and sparsely populated areas more accurately than the HAI Model. In addition, the BCPM method incorporates the fact that telephone networks are built based on Carrier Serving Areas, not on a customer-by-customer basis.[9]

The Bureau also asks for additional information on other possible methods and technologies for geocoding business and residential locations and their associated costs.[10] GTE has no mechanized way to geocode its customer base and has only done

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[8] *Id.*

[9] Letter to Magalie R. Salas from W. Scott Randolph, CC Docket Nos. 96-45, 97-160 (filed May 7, 1998).

[10] Public Notice at 4.

geocoding for sampling purposes. GTE is unaware of another methodology or technology that would provide accurate latitude/longitude information for all customers in a cost-effective manner.

B. The difficulties involved with using GPS device data outweigh any possible benefits.

The Bureau seeks comment on "whether the benefits of geocoding using a GPS device outweigh the burdens associated with developing the data, compared to alternative methods of obtaining geocoded data."[11] GPS data can be quite accurate, but some level of inaccuracy is built into such devices because of government security requirements. As a result, the more sophisticated GPS device required to overcome a plus or minus 100-yard error can cost between $4,500 and $15,000. Although it would appear that a 100-yard error is not significant, it can place a customer into an adjacent CB or CBG. Overall, the utilization of a GPS device is the most accurate method of geocoding. Unfortunately, geocoding all customers using GPS would be prohibitively expensive.

GTE conservatively estimates that the cost of identifying all GTE customers by GPS units is approximately $47.5 million dollars, as shown in Table 1. To facilitate such a project, all customer records would have to be extracted and coordinated by field personnel, who would record the latitude/longitude for each customer.

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[11] Public Notice at 4.

Table 1 – Estimate of Cost to Identify All Lines Using GPS Units

		GPS Cost
Labor Cost	2 minutes for 80% of customers	$ 4,444,444
	20 minutes for 20% of customers	11,111,111
Hotel Cost	748 employees @ $50 per day	9,724,000
Food/Travel	748 employees @ $25 per day	4,862,000
Car Rental	748 employees @ $40 per day	7,779,200
GPS Devices	800 units @ $4,500 each	3,600,000
Data Changes	Extract/update Customer Files	6,000,000
Total		$47,520,756

In summary, GTE estimates it would require 748 employees working for one year to obtain the exact latitude/longitude using the GPS option for all of its customers. Clearly, the costs of this effort would outweigh the benefits since other reasonably accurate methods of determining customer location, such as that used by BPCM, are available.

II. ALL HOUSEHOLDS, WHETHER OCCUPIED OR NOT, SHOULD BE USED FOR CALCULATING THE FORWARD-LOOKING COSTS OF PROVIDING UNIVERSAL SERVICE.

The Bureau requests comment on whether households included for the purpose of computing the costs of providing supported services should encompass total housing units, total occupied units, or only occupied units with telephones.[12] GTE supports

[12] Public Notice at 5.

BCPM's use of all housing units. This approach accounts for the normal growth and churn of customers within an ILEC's service area. It also takes into account that an ILEC must engineer its network and be prepared to provide immediate service to all customers in its area in order to satisfy its carrier-of-last-resort obligations. Compensating ILECs only for the costs of serving customers who currently have telephones is at odds with encouraging all households to subscribe to telephone service – one of the goals of the universal service plan.

The HAI Model fails to adhere to industry standard loop planning and sizing guidelines by only accounting for the number of in-service lines included in ARMIS reports. The Model does not provide sufficient spare capacity for administration, maintenance, or growth in second lines and does not consider normal growth and churn. This would leave ILECs unable to provide prompt service to new customers in their territories and to comply with state regulations that require access to 911 for all lines, mandate fill factors for growth and maintenance, and obligate ILECs to provide facilities for warm dial tone. In contrast, the BCPM definition of housing units accounts for an ILEC's carrier-of-last-resort responsibilities and state requirements so as to ensure appropriate cost support.

III. THE BCPM LOOP DESIGN WITH A MAXIMUM COPPER LOOP LENGTH OF 12,000 FEET MORE ACCURATELY MODELS ACTUAL NETWORK FACILITIES THAN THE HAI MODEL.

The Bureau seeks "to augment the record on the appropriate maximum loop length that the federal mechanism should assume is permissible without the use of significantly more expensive electronics."[13] In prior Comments, GTE has explained that the HAI Model, which uses an 18,000 foot copper loop, is based on flawed engineering principles and out-of-date, rather than forward-looking, technologies and that BCPM uses more efficient technologies that more accurately reflect the actual facilities deployed by carriers.[14] Therefore, GTE urges the Commission to use the BCPM methodology, which is based on a 12,000 foot loop and meets forward-looking design standards.

The HAI Model does not properly design copper loops and therefore would prevent some rural subscribers from utilizing today's standard dial-up modem speeds[15] as well as accessing advanced services. This is inconsistent with both the requirements of the 1996 Act and the Commission's forward-looking technology requirement. The HAI Model designs serving areas with copper loops up to 18,000 feet long and provides service to rural subscribers on road cables[16] over copper-based T-1 Digital Loop Carriers ("DLCs"). This platform flaw is caused by both the HAI Model's failure to adhere to the industry Carrier Serving Area ("CSA") design standard and the

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[13] Public Notice at 4.

[14] Comments of GTE Service Corporation, CC Docket Nos. 96-45, 97-160 at 9-11 (filed Sept. 24, 1997).

[15] As the Lucent Outside Plant Engineering Handbook at 3-16 (1996) states, "[t]o meet the 64-kb/s transmission rate, the secondary system cables within a CSA must not exceed 9,000 feet (2743 m) in a 26-gauge (0.4 mm) design area and 12,000 feet (3658 m) in a 24/22/19-gauge (0.5/0.6/0.9 mm) area."

[16] HAI Model Release 5.0a, § 6.3.2 (rev. Feb. 16, 1998) states that "[a] T1 road cable contains copper pairs, and supports T1 signals used to provide digital connections between the fiber DLC remote terminals located at the centroid of the main cluster and

(Continued...)

Model's use of obsolete copper T-1 technology to provide service to customers on road cables.

The CSA design standard limits the total copper loop length to 12,000 feet,[17] thereby assuring optimal voice and data transmission. The HAI Model ignores this standard and designs copper loops that extend out to 18,000 feet. The result, which the HAI Model proponents claim is an improvement over competing models, is fewer and larger DLC Remote Terminals.[18] The rationale for this modification is that the CSA standard has been superseded by newer technologies.[19] However, this claim is inconsistent with the December 1997 Bellcore Notes on Networks,[20] the July 1997 Litespan Engineering and Planning practice, and the Lucent Outside Plant Engineering Handbook, which all cite 12,000 feet as the CSA standard.[21]

Copper-based T-1 DLCs are a 1970s technology requiring specialized design and cable conditioning to function properly and are not being installed by carriers today.

(...Continued)
subsidiary remote T1 terminals located at the centroid of each outlier cluster."

[17] Bellcore Notes on the Networks, Special Report SR-2275, Issue 3 at 12-5 (Dec. 1997); Lucent Outside Plant Engineering Handbook § 13 (1996).

[18] Testimony of AT&T Witness James W. Wells before the Kentucky Public Service Commission, Administrative Case No. 360 at 116 (Mar. 5, 1998).

[19] Testimony of John Donovan, Alabama Public Service Commission, Implementation of the Universal Service Requirements of Section 254 of the Telecommunications Act of 1996, Docket No. 25980 at 1696-1697, 1707-1709 (Feb. 25, 1998).

[20] Bellcore Notes on the Networks, Special Report SR-2275, Issue 3 at 12-5 (Dec. 1997).

[21] The Digital Switch Corporation's Litespan is the GR-303 DLC used by the HAI Model.

As Don J. Wood, a sponsor of the HAI Model, has confirmed, "[t]here are existing DLC systems that utilize copper wire pairs, but forward-looking DLC architectures assume the use of fiber optics transmission facilities."[22] Similarly, John Lynott, a sponsor of AT&T's non-recurring cost model, has stated that the use of T-1 DLCs on copper loops under any circumstances cannot be considered forward-looking.[23]

Use of this outdated technology would prevent rural subscribers from receiving advanced services. ADSL transmission is optimal at 6.144 Mbit/sec.[24] However, since the T-1 transmission rate is 1.544 Mbit/sec (24 - 64 Kbit/sec DS0 channels plus overhead), the T-1 DLCs envisioned by the HAI Model will be incapable of carrying ADSL service to rural subscribers on road cables.[25] ADSL services are currently offered by several RBOCs and GTE to meet customer demand for faster on-line and Internet service. However, since customers more than two miles from the wire center

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[22] Direct Testimony of Don J. Wood on Behalf of AT&T and MCI Before the North Carolina Public Service Commission, Docket No. P-100Sub 133d at 12 (Feb. 16, 1998).

[23] Deposition of John Lynott in the State of California Before the Public Utilities Commission, Docket Nos. R.93-04-003 and I.93-04-002 at 437 (Nov. 19, 1997).

[24] "What is ADSL," Hayes Online ADSL Information Page, <http://www.hayes/adsl/whatis.htm>.

[25] In a South Carolina proceeding, AT&T Witness James Currin offered testimony supporting this argument. First, Mr. Currin confirmed that GTE's policy of limiting copper loops to 12,000 feet and serving longer loops with a combination of fiber and copper is appropriate. In addition, a chart contained in Mr. Currin's testimony indicated that the HAI Model cannot provide the full range of ADSL-type services because, at 18,000 feet with 24 gauge cable, the maximum data rate is one-and-one-half to two megabits per second. Rebuttal Testimony of James W. Currin on Behalf of AT&T Communications of the Southern States, Inc., South Carolina Public Service Commission, Docket No. 97-239-C at 19 (Mar. 2, 1998).

will not be able to benefit from these technologies, at least one RBOC has announced plans to utilize fiber-based DLC systems to overcome the distance limitations of ADSL.[26] Clearly, the HAI Model's use of 3.5 mile long copper loops and copper-based 1.5 megabit T-1 carriers will prevent a sizeable number of customers from using these technologies.

AT&T, an HAI Model proponent, has cited Revised Resistance Design ("RRD") standards as supporting the use of 18,000 foot copper loops.[27] The RRD standard is a slight modification to the original resistance design standard that was used to ensure loop and switch compatibility *for voice transmission only*, prior to the introduction of DLCs in 1980 and is not suited for today's networks. RRD guarantees that subscribers receive sufficient loop current to power their transmitters and assures voice transmission with the RRD limits. However, it has the same difficulties regarding the use of today's dial-up modems and ADSL transmission described above and thus will still prevent rural subscribers from fully utilizing today's dial-up modem capabilities and subscribing to advanced services.

The Bureau also asks for comment on the types and costs of line cards required to serve loops up to 18,000 feet from a DLC remote terminal.[28] Although line cards will allow a loop to be extended up to 18,000 feet, they will not allow customers served by

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[26] "Bell Atlantic To Offer ADSL-Based Service Starting in Mid-1998," Bell Atlantic News Release <http://www.ba.com/nr/1997/May/19970519001.html>.

[27] Hatfield Model 5.0 Inputs Portfolio at 35.

[28] Public Notice at 4.

these lines to receive advanced services or use dial-up modems to their existing capacity. If the Commission chooses to consider extended line cards, the model must be able to identify which lines need extended line cards. The HAI Model cannot currently assign the costs of extended range line cards to those loops that require them, while BCPM can.

The specific line cards that GTE uses and the price GTE pays is proprietary information. However, GTE has compared the material prices for plain old telephone service ("POTS") line cards that generally serve loops up to 12,000 feet and POTS extended range line cards that serve loops up to or beyond 18,000 feet that are available from various vendors. POTS line cards are typically $45 to $81 per line/circuit at 100 percent utilization, whereas POTS extended range line cards were found to cost $84 to $194 per line/circuit at 100 percent utilization.

Different carriers will likely face different line card costs. The cost of line cards can be compared on a material price basis, an investment basis, or an annual or monthly cost basis. Different line cards have a varying capacity in terms of the number of lines/circuits per line card. For example, the HAI Model reflects DLC high density GR-303 and low density GR-303. The high density GR-303 input is a *unit investment* of $310 with a 4 line capacity or $78 per line at 100 percent utilization, and the low density GR-303 input is a unit investment of $600 with a 6 line capacity or $100 per line at 100 percent utilization. BCPM also reflects high density and low density inputs. The high density input is a *unit investment* of $89.11 per POTS line, and the low density input is a unit investment of $94 per POTS line. BCPM also allows the user to include separate inputs for extended range line cards. The high density input is a unit investment of

$187.50 per extended range lines, and the low density input is a unit investment $125 per extended range lines.

Unlike the HAI Model, BCPM adheres to CSA standards. Thus, it generally restricts the length of copper loops to 12,000 feet and does not use obsolete copper-based T-1 DLC technology. Therefore, GTE recommends the BCPM approach over the HAI Model approach as both more consistent with current ILEC practices and with Congress's goal of ensuring that all Americans, not just those in urban areas, have access to today's dial-up modems and advanced services.

IV. DEPRECIATION EXPENSE SHOULD BE CALCULATED USING THE ECONOMIC LIVES OF ASSETS.

The Bureau requests comment on "the particular values of depreciation lives and future net salvage percentages we should use to determine the forward-looking cost of providing supported services in a competitive environment."[29] The Bureau also asks commenters to discuss why their recommendations are appropriate, especially if they fall outside the Commission's ranges.[30] As GTE explained in its Comments on cost model input values, "economic life is the only appropriate measure for depreciation of ILECs' physical plant."[31] The depreciation lives and salvage values currently included in the Commission's ranges should not be used as model inputs because they were

[29] Public Notice at 6.

[30] Public Notice at 6-7.

[31] Comments of GTE Service Corporation, CC Docket Nos. 96-45, 97-160 at 38 (filed Oct. 17, 1997).

designed to keep depreciation expense, and thus rates, as low as possible rather than to mirror economic reality. These artificially low rates have resulted in ILECs incurring considerable reserve deficits. Therefore, as explained below, GTE urges the Commission to allow ILECs to use the same depreciation rates and salvage values as used for financial reporting or, in the alternative, to establish a range based on the depreciation rates and salvage values used by IXCs and CLECs for their financial reporting.[32]

The Commission's current prescribed asset lives were developed under the assumption that there would be little or no competition and that technological innovation would continue at its traditional pace. The 1996 Act has changed these assumptions by introducing competition into the local exchange market. Competition spurs technological development that, in turn, shortens the period over which an asset will provide economic value.

The most immediate and important effect of competition is that the reserve deficits caused by artificial depreciation rates are no longer tenable. GTE and other ILECs are already facing competition in their markets, and the pace is steadily increasing. Thus, it is critical that the Commission revise its guidelines to allow ILECs to depreciate their assets consistent with economic lives, just as IXCs and CLECs do now. At a minimum, the Commission should revise its depreciation ranges to take into

[32] IXCs and CLECs use the same types of equipment as ILECs so the rates that these entities use for their own financial reporting is persuasive evidence of the economic lives of these assets.

account the depreciation lives recommended by the Joint Board, including 18 years for copper cable, 14 years for digital switching, and 10 years for circuit equipment.[33]

Allowing ILECs to use economic lives for depreciation is also the most appropriate method for estimating the forward-looking costs of providing services to high-cost areas.[34] As noted above, competition in the local market is increasing steadily. Any efficient carrier in a competitive environment will use economic lives to calculate depreciation so that it is not at a disadvantage vis-a-vis other carriers. This is particularly important when serving high-cost areas. ILEC competitors, including AT&T, MCI, and other CLECs, use depreciation rates and salvage values based on the economic life of the asset. These lives as considerably shorter than those required by the Commission's current rules. Thus, when artificially low rates are used, ILEC costs of providing service appear to be much lower than they actually are, causing any model to calculate insufficient universal service support.

The Commission clearly recognized the importance of using economic lives in developing depreciation rates for the cable television industry in 1996. Specifically, the Commission adopted a flexible range of lives for cable television operators based on a statistical analysis of the lives used by the cable operators for their own facilities.[35]

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[33] State Members' Second Report on the Use of Cost Proxy Models, CC Docket No. 96-45, Appendix A (Apr. 21, 1997).

[34] Public Notice at 7.

[35] Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation, Adoption of a Uniform Accounting System for Provision of Regulated Cable Service, 11 FCC Rcd 2220 (1996).

Commission rules allow cable operators to use 10-15 years for distribution facilities, 9-11 years for office furniture and equipment, 3-7 years for vehicles and equipment, and 18-33 years for buildings. These ranges are much more realistic than those currently allowed for ILECs.

GTE has included an example of the depreciation rates that represent the economic lives and salvage values of ILEC equipment in Exhibit 2. As demonstrated therein, these rates compare favorably to those used by AT&T, those adopted by the Commission for the cable television industry, and the economic lives used by other ILECs. GTE urges the Commission to allow ILECs to set depreciation lives based on the expected economic life of an asset, as CLECs and other telecommunications companies do currently. This would be consistent with Commissioner Furchtgott-Roth's recent statement that "[i]n today's increasingly competitive environment, there should be no need for the Commission to continue to dictate, even through revised streamlined procedures, depreciation rates or the factors that may be used to compute such rates."[36] Requiring ILECs to use the same depreciation rates and salvage values in a cost model as they use for financial reporting will prevent ILECs from using unreasonably short rates or low salvage values. Thus, there is no reason for the Commission to maintain any additional rules.

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[36] In the Matter of Cincinnati Bell Telephone Company, Southwestern Bell Telephone Company, and U S WEST Communications, Inc., 13 FCC Rcd 6221 (1998) (Separate Statement of Commissioner Harold Furchtgott-Roth). This would also be consistent with the Commission's recent decision as part of its 1998 biennial review to consider whether rules regarding depreciation are overly burdensome and no longer necessary. *See* FCC Staff Proposes 31 Proceedings as Part of 1998 Biennial Review, Report No. GN 98-1 (General Action) (rel. Feb. 5, 1998).

However, if the Commission continues to regulate depreciation rates, it should revise its rules and develop a range of rates using the same methodology as is used for cable television operators. ILECs should be allowed to select their own depreciation rates as long as they fall within this range and are not inconsistent with the values the ILECs use for financial reporting. This would ensure that the Commission calculates depreciation expense accurately for universal service and that ILECs do not continue to suffer from a competitive disadvantage by using unrealistically long asset lives.

V. THE COMMISSION SHOULD USE CARRIER-SPECIFIC INPUTS BY STATE TO DETERMINE THE COSTS OF OUTSIDE PLANT.

In the Public Notice, the Bureau seeks additional comment on the Commission's tentative conclusion that installation costs for cable should vary based on terrain and line density and on the model proponents' default values.[37] As GTE has emphasized throughout this proceeding, company-specific input values by state are the most appropriate means of determining the forward-looking costs that an efficient carrier would incur. Carrier-specific input values are also the best method to calculate universal service support because they take into account ILECs' obligations to provide local exchange service on a carrier-of-last-resort basis. ILECs have already installed facilities to provide service to end users in rural and high-cost areas and will likely continue to serve these customers for the foreseeable future. Therefore, it is the forward-looking costs of the existing ILEC networks that should be used to determine the costs of providing universal service.

[37] Public Notice at 7.

Nationwide or statewide default inputs will produce average prices that will probably not be attainable by any company. Only carrier-specific inputs reflect each company's current contracts with its vendors. The contract prices negotiated by a carrier are often a package deal, covering a variety of products and often specifying minimum volume requirements. It is not possible to mix and match the terms of different contracts in an effort to develop a set of pricing inputs that represents the costs that most, or even some, companies will incur. Because of differences in terrain, population density, labor prices, and other factors, GTE's costs for the same facilities differ throughout its territories. Company-specific inputs should be used in any cost proxy model selected to determine federal support. The use of default inputs in either BCPM or the HAI Model is not likely to provide estimates that reflect the actual costs of any particular carrier.

The Bureau also asks for comment on the default inputs proposed by the HAI and BCPM proponents.[38] GTE is opposed to the use of a cost proxy model that is based only upon default input values. A company's existing plant mix must be the basis for cost determination in any model since this will ensure that variances in terrain are taken into account. However, if the Commission does develop default inputs, there are numerous instances where the default inputs between models vary considerably, so great care must be taken to ensure that all costs are properly represented. The development of default input values prior to the selection of a model platform is complicated by the fact that the inputs in the two Models under consideration differ in

[38] Public Notice at 7.